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DEMOGRAPHIC TRENDS AND LIVING STANDARDS DURING THE 1980s*

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The main contribution of this paper is the study of the evolution of the standard of living in Spain during the 1980s for a population partitioned by the following individual characteristics: the age group, the relation to economic activity, and the result of the decision on whether to live in a household headed by someone else, or to live on one's own with or without dependents. From the point of view of demographic studies, this paper is interesting because of the link established between demographic trends and an operational notion of an individual's standard of living. This makes it possible to follow up the consequences of individual decisions by key subgroups, such as the early retired or women in general, as well as the consequences of household formation decisions by both the old and the young.

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In welfare economics one is interested in the standard of living of the individuals who make up the population. However, it is quite clear that an individual's standard of living depends on the demographic and economic characteristics of the household to which he or she belongs. People enter into different living arrangements for a number of complex reasons, among which the pooling of resources should be emphasized. Thus, given household demographic characteristics, individual consumption depends on *household* total resources.

Ideally, one would like to know how much of the change in household expenditures inequality or welfare is caused by exogenous changes in demographic or socioeconomic variables for which we have information. At present, lacking a structural model which includes all relevant behavioral responses, researchers have been largely engaged in accounting exercises to decompose changes in overall inequality or welfare in terms of within– and between-group components for different

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partitions of the population[1]. Generally, these partitions are constructed according to characteristics of the *household head*. This poses a formidable obstacle to any attempt to relate studies in this area with demographic studies, which are couched in terms of categories based on the entire population of individuals and not only on the subset consisting of household heads. For instance, when in distributional studies we speak about inequality among the "retired" or the "unemployed", in the first group we exclude a good proportion of pensioners who live in households headed by their sons or daughters, while in the second we exclude the young unemployed, who, in a country like Spain, reside under their parents' roof.

The main contribution of this paper is the study of the evolution of the standard of living in Spain during the 1980s for a population partitioned by the following *individual* characteristics: the age group, the relation to economic activity, and the result of the decision on whether to live in a household headed by someone else, or to live on one's own with or without dependents. This is possible because we have good individual information on these matters coming from two representative and comparable budget surveys: the *Encuestas de Presupuestos Familiares* (EPF for short), collected in 1980-1981 and 1990-1991 by the Spanish *Instituto Nacional de Estadística* (INE for short).

This is an interesting period for Spain, which gave itself a democratic regime during the mid 1970s, became a full member of the European Community in 1986 and was governed by a socialist party from 1982 to 1996 for the first time in 50 years. During the 1980s, Spain was involved in a complex process of economic modernization and liberalization, while striving at the same time to catch up in the construction of a Welfare State comparable to that existing in other Western societies[2].

It is well known that recent demographic trends in Spain mirror those found in other countries: the rise in life expectancy, the delay of marital and fertility decisions, and a particularly strong decline in fertility[3]. In connection with the labor market, Spain shares with other European countries rather well known features: high unemployment levels, above all among the young; increasing importance of early retirement; and increasing female participation rates. Knowledge about living arrangements is more scant, but, as will be seen below, both the proportion of the old who live on their own, as well as the proportion of the young who stay with their parents, have also increased during the 1980s. On the other hand, Del Río and Ruiz-Castillo (2001) show that real inequality of the adjusted household expenditures personal distribution has decreased in Spain during this period. Since the mean has also increased in real terms, economic welfare from a social point of view has gone up considerably.

Against this background, this paper explores two questions. First, we examine which subgroups did better (or worse) than average during the 1980s: the old or the young, the employed or those outside the labor force and the unemployed, the

(1) See, for example, Cowell and Jenkins (1994) for the U.S., Jenkins (1995) for the UK, Rodrigues (1993) for Portugal, Tsakloglou (1993) for Greece, and Del Río and Ruiz-Castillo (2001) for Spain.

(2) For a detailed description of the Spanish economy during the last four decades, see Martín (1999).

(3) See Fernández Cordón (1991) and Puyol (1997).

independent persons or the dependents, including the important subgroup of minors below 16 years of age? Second, we consider which subgroups are characterized by a large (or a small) welfare index at the end of the period, i.e. in 1990-1991.

The rest of the paper is organized in four sections and a statistical Appendix. The first section is devoted to the presentation of the data and the main demographic trends. Section 2 discusses a number of methodological issues which must be dealt with in any study of this type. Section 3 presents the empirical results on the evolution of the mean, the inequality, and the social welfare of the adjusted household expenditures personal distribution. The final section concludes and discusses possible extensions.

1. Demographic trends

1.1. Data

The EPFs main purpose is the estimation of the weights of the Spanish Consumer Price Index. Nevertheless, it contains valuable information on a variety of demographic and socioeconomic household and individual characteristics which are essential to this work. The two latest EPFs were spread out uniformly during 52 consecutive weeks from April 1980 to March 1981, and from April 1990 to March 1991. Both are large budget surveys of 23.972 and 21.155 observations, respectively, for a population of approximately 10-11 million households living in residential housing all over Spain, including the African enclaves of Ceuta and Melilla. There are 88.115 and 72.123 individuals in each sample, representative of a population of 37 and 38,5 million people in 1980-1981 and 1990-1991, respectively[4].

1.2. The Partition by Age and Living Arrangements

In this paper all individuals are classified into three groups. First, the "independent" persons, who comprise household heads, their spouses, and unrelated persons aged16 or more years old. Second, the "dependents", who include sons and daughters of the household head, parents of either the household head or the spouse, and other family related people. Among the independent people, those who live with some dependents are distinguished from those who do not.

Table 1 presents the evolution of the population during the 1980s by age group and living arrangements[5]. From here on, the OLD are those persons with 65 or more years of age, the YOUNG are those between 16 and 30, the MINORS are those 15 or less, and OTHER ADULTS (or simply ADULTS) are the remaining adult population between 31 and 64 years old.

There is a sharp reduction in minors, accompanied by an increase in all other groups. This reduction, which speaks eloquently about the fertility decline in Spain, represents more than 20 per cent of all minors in 1980-1981. The increase in nearly 30 per cent of the old, reflects in part an improvement in life expectancy

(4) For more details on the EPFs, see INE (1983) and INE (1992).

(5) To obtain population rather than sample statistics, blowing up factors provided by the INE are used throughout.

Table 1: THE PARTITION BY AGE GROUP AND LIVING ARRANGEMENTS. CROSS-SECTION EVIDENCE IN 1980-1981 AND 1990-1991 (IN 1,000 OF PERSONS), AND POPULATION CHANGE

	1980-1981		1990-1991		
Age groups	Number of persons	%	Number of persons	%	Rate of change in % = 100 (1990-1980)/1980
The old	*4.110*	*11,1*	*5.320*	*13,8*	*29,5*
– Without dependents	1.836	4,9	2.672	6,9	45,5
– With dependents	938	2,5	1.405	3,7	49,8
– Dependents	1.336	3,6	1.243	3,2	-7,0
Other adults	*14.283*	*38,5*	*15.567*	*40,5*	*9,0*
– Without dependents	1.843	5,0	1.898	4,9	3,0
– With dependents	11.246	30,4	12.340	32,1	9,7
– Dependents	1.193	3,2	1.329	3,5	11,4
The young	*8.022*	*21,6*	*9.351*	*24,3*	*16,6*
– Without dependents	454	1,2	499	1,3	9,9
– With dependents	1.967	5,3	1.498	3,9	-23,8
– Dependents	5.601	15,1	7.354	19,1	31,3
Minors	*10.654*	*28,8*	*8.254*	*21,4*	*-22,5*
All	*37.069*	*100,0*	*38.492*	*100,0*	*3,8*

The old = 65 and over; *The young* = 16-30; *Other adults* = 31-64; *Minors* = Under 16; *Dependents* = Sons and daughters or parents of either the household head or the spouse, and other family related people.

during the decade. The young population[6] also increases try close to 20 per cent, while the remaining adults increase by only 9 per cent. According to the EPFs, the population as a whole grows by almost 4 per cent.

Which type of living arrangements have been favored by these age groups? First, relative to the total population, the proportion of independent old people –with and without dependents– increases from 7,4 to 10,6 per cent, an increment in the number of persons of more than 45 per cent during the period. However, the proportion of the old living as dependents is slightly reduced. Second, contrary to Anglo-Saxon and central European countries, but in line with other southern European nations, in Spain the proportion of young people living with their parents is very high[7]. This is reinforced during the decade: those living by themselves, with or without dependents, lose importance, reflecting a delay in wedding commitments. However, the proportion of dependents staying with their parents goes up by 4 percentage points. Third, the situation of the remaining adults, which represent about 40 per cent of the population, is essentially unchanged, except for a shift towards households with dependents, which parallels the increase in the rate of dependency among the young. It should be mentioned that the number of dependents between 31 and 64 years of age, more than one million people in both years, is approximately the same as the number of old dependents.

On balance, there is a loss of minors but an increase in young dependents and the independent old. It would appear as if, within those Spanish households where different generations live together, some of the old have gone to live by themselves, making room for many of the young who would rather stay in the parental home.

1.3. Other Trends

To conclude this examination of general trends, table A of the Appendix presents a rather detailed classification of the population which, together with age and living arrangements, takes into account the relation to economic activity. The main features of that table are as follows:

i) There is an increase in the number of people who retire before the normal age, namely, before reaching 65 years. These are referred to as “early retired” (see subgroups 2, 8, and 17 in table A). Presumably, some of these people have taken advantage of the universal public social security system, which allows them to cash in a reduced old-age pension before the normal retirement age. Others may have benefited from disability regulations, which are not always applied very rigorously, or from the minimum non-contributive pensions which have been increasingly generous during the second part of the 1980s. A third contingent may have been pushed towards retirement because of an economic crisis in the firm or the sector in which they were employed, particularly during the so-called Industrial Reform which took

(6) In 1990-1991, the young include three households headed by a minor, and one household where the spouse is a minor.

(7) See Fernández Cordón (1997) for a comparative study of the situation of the young in three southern European countries (Spain, Greece and Italy) and three central ones (France, Germany and the UK).

place during the first part of this period[8]. The percentage of people retired with 65 or more years of age also increases considerably (subgroups 1, 7, and 16).

ii) As far as the households they live in, both the old and the early retired behave very similarly. The proportion of those living as dependents (subgroups 16 and 17) remains constant, while those which are classified as independent, with or without dependents (subgroups 1, 2, 7 and 8), see their share increase.

iii) Although table A contains no differentiation by gender, it is known that "other inactive" are mainly women. The reduction in the percentage of subgroups in the 16 to 64 age range (subgroups 4, 10, 11, 19, and 20 in table A), gets translated into an increase of the female participation rate in the active and the student population.[9] Thus, as shown in Del Río and Ruiz-Castillo (1997), in spite of the reduction in the male occupation rate, the participation rate for the economy as a whole remains constant at around 47 per cent –a low figure by European standards.

iv) There is a large increase in the proportion of the young living as dependents, both among the occupied, the unemployed and the students (subgroups 22, 24, 25, 26, and 27). This increase comes accompanied by a slight decrease in the proportion of independent young people with or without dependents (subgroups 13 and 15).

v) Minors of all types lose relative importance, regardless of the situation in the labor market of the household head upon whom they depend (subgroups 28, 29, 30, and 31).

2. Measurement procedures

2.1. The Measurement of a Household Standard of Living in Real Terms

We agree with Slesnick (1991, 1993) that, ideally, economic well-being should be characterized in terms of commodity consumption. Lacking information on leisure and public goods consumption, the starting point must be household total expenditures as an approximation to household consumption of private goods and services. The EPFs have a rather wide concept of total expenditure, including expenditures on items not covered by the Consumer Price Index (like funeral articles; contributions to non-profit institutions; gambling expenditures; fines; hunting, fishing and other fees), as well as a number of imputations for home production, wages in kind and subsidized meals at work. To avoid double counting, transfers to other households or to household members absent from home are excluded.

Recently, bulk purchases of food and drinks for home consumption have been gaining popularity among a certain strata of the more urbanized population. Using all the information on bulk purchases available in the 1990-1991 EPF, Peña and Ruiz-Castillo (1998) have produced estimates of food and drinks annual expenditures which have been incorporated in the household total expenditures measure.

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(8) For the complex relationship between early retirement and social security incentives, see Boldrin *et al.* (1999).

(9) Typically, High School ends when a person is 18 years old. During the 1980s, to complete a College education may last at least 5 or 7 years, depending on the field of specialization.

Previous experience with the 1980-1981 EPF indicates that discontinuous household expenditures on some durables, whose occurrence may heavily distort the total, are best considered as investment rather than consumption [see Ruiz-Castillo (1987)]. These refer to current acquisitions of cars, motorcycles and other means of private transportation, as well as house repairs financed by either tenants or owner-occupiers. Life and housing insurance premiums are excluded on the same grounds. Thus, the estimate of household current consumption used in this paper equals household total expenditures, net of these investment items.

Ideally, an estimate of the consumption services currently provided by these investment flows, as well as by the stock of household durables acquired in the past, should be included. This is done for housing, by far the more important household durable. The INE includes a market rental value for owner-occupied housing, as well as for the rest of the stock which is neither rented nor owned by the household occupying it. Such rental values are estimated by the household occupying the dwelling.

For the remaining household durables, the INE inquiries about those acquisitions made within reasonable reference periods, determined by experts, prior to the sample week. These are the expenditures included here[10]. Finally, it should be noticed that the estimates of annual household total expenditures obtained from a sample spread out over 52 weeks during a year might be subject to seasonality bias. No attempt has been made here to correct for such a problem[11].

The 1980-1981 and 1990-1991 EPFs provide information on expenditures at current prices. Both household expenditures distributions are expressed at constant prices of the Winter of 1991 by means of household specific statistical price indices. These individual price indices combine the EPFs information on household budget shares in a 57-dimensional commodity space, with the official national prices for these commodities being published monthly by the INE [for further details, see Ruiz-Castillo *et al.* (2000)].

2.2. Inter-household Comparisons of Welfare

Each household is characterized by its expenditures x^h and a set of characteristics which give rise to differences in "needs". To make the analysis tractable, in this paper it is assumed that equivalence scales depend only on the number of persons in the household[12]. However, the generosity of the scale is controlled by a parameter Θ in the unit interval. Let there be s = 1,..., S household sizes. Following Buhmann *et al.* (1988) and Coulter *et al.* (1992a, 1992b), for each household h of size s adjusted or equivalent income is defined by

$$z^h(\Theta) = x^h/s^\Theta, \Theta \in [0, 1]$$

(10) It might be interesting to explore the possibility of explicitly modelling the infrequency of purchase problem for household durables and other goods. This might lead to new estimates of annual household expenditures for these goods.

(11) To estimate the size of this bias for those goods potentially affected by seasonally problems, one may compare the estimates of annual expenditures from the EPFs with estimates from the panel data available from the Encuestas Continuas de Presupuestos Familiares.

(12) Other equivalence scales also take into account the household composition, as in Cutler and Katz (1992).

Taking a single adult as the reference type, the expression s^{Θ} can be interpreted as the number of equivalent adults in a household of size s. Thus, the greater is Θ, the smaller are the economies of scale in consumption within the household or, in other words, the larger is the number of equivalent adults. In particular, when $\Theta = 0$ and economies of scale are assumed to be infinite, adjusted income coincides with unadjusted household income, while if $\Theta = 1$ and there are no economies of scale, adjusted income becomes *per capita* household income.

2.3. The Individual Standard of Living

Assuming that there are H households in the population, the distribution of adjusted household expenditures is denoted by $\mathbf{z}(\Theta) = (z^1(\Theta),..., z^H(\Theta))$. However, from the social point of view we are more interested in the individuals than in the households as such. Unfortunately, there is no adequate theory, generally accepted and empirically supported, about the distribution rule used by households to allocate total expenditures among its members. Consequently, this paper follows the usual practice of identifying the individual standard of living with the adjusted expenditures of the household to whom he or she belongs. Operationally, this means that each household observation is weighted by household size[13]. This is referred to as the adjusted household expenditures personal distribution.

2.4. The Measurement of Inequality and Welfare

In welfare economics, the social welfare of a population is often evaluated taking into account two types of considerations. First, a preference for efficiency which, in this context, gets translated into a preference for the greatest mean adjusted expenditures. Second, a preference for an egalitarian distribution of that total, which is made operational as a preference for the smallest possible value of an adequate inequality index.

Denote by W the social evaluation function (SEF for short) which, for every income (or expenditures) distribution *z*, provides the social or aggregate welfare. In this paper the following specification is used:

$$W(z) = \mu(z)(1 - I_1(z)), \qquad [1]$$

where I_1 is the first index suggested by Theil:

$$I_1(z) = (1/H)[\Sigma_h(z^h/\mu(z)) \ln(z^h/\mu(z))]$$

Equation [1] indicates that social welfare is measured as the mean of the distribution, corrected by a factor which diminishes as inequality increases. This SEF, originally discussed in Herrero and Villar (1989), has several interesting properties. From a normative point of view, it is a weighted utilitarian SEF where the weights assigned to each individual vary inversely with their income (or expenditures). From an operational point of view, for any population partition social welfare is

(13) See Jenkins (1991) for a discussion of alternative assumptions and their non-negligible consequences.

seen to be a weighted average of the welfare within each subgroup, with weights equal to demographic shares, minus the between-group inequality weighted by the population mean [for a discussion of this SEF, see Ruiz-Castillo (1995a), and for other empirical applications, see Ruiz-Castillo (1998) and Garner *et al.* (1999)].

Taking into account the definition of adjusted household expenditures, we have that

$$W(z(\Theta)) = \mu(z(\Theta))[1 - I_1(z(\Theta))] \qquad [2]$$

The mean, the inequality and the welfare of a distribution $z(\Theta)$ depend on the parameter Θ which captures how important the economies of scale are assumed to be. Section 3.3 below studies the robustness of the results to different values of Θ.

3. Welfare results

3.1. Welfare Results by Age Group and Living Arrangements

According to equation [2], for any value of Θ social welfare $W(z(\Theta))$ is equal to the mean $\mu(z(\Theta))$, times an adjustment factor $A(z(\Theta)) = (1 - I_1(z(\Theta)))$ which varies inversely with inequality. Table 2 presents the cross-section evidence and the change over time of the mean, the adjustment factor and the welfare in the partition by age group and living arrangements when Θ takes the intermediate value 0,5. Let $z_1(\Theta)$ and $z_2(\Theta)$ be the 1980-1981 and 1990-1991 distributions of adjusted household expenditures, respectively. The proportionate change in the mean $\mu_{21}(\Theta)$, the adjustment factor $A_{21}(\Theta)$, and social welfare $W_{21}(\Theta)$, are defined by the following expressions:

$$W_{21}(\Theta) = \mu_{21}(\Theta)\, A_{21}(\Theta)$$

where

$$W_{21}(\Theta) = W(z_2(\Theta))/W(z_1(\Theta)),$$
$$\mu_{21}(\Theta) = \mu(z_2(\Theta))/\mu(z_1(\Theta)),$$

and

$$A_{21}(\Theta) = A(z_2(\Theta))/A(z_1(\Theta)) = [(1 - I(z_2(\Theta))]/[(1 - I(z_1(\Theta))].$$

For the population as a whole, the main features are the following: i) a considerable increase of the mean in real terms of almost 28 per cent over the decade, or a 2,8 per cent yearly increase; and ii) a decrease in real inequality which manifests itself in an increase of 1,4 per cent in the adjustment factor.[14] This leads to

(14) This goes in the opposite direction of the well known increase in earnings and income inequality during the 1980s in the U.S., the U.K. or Sweden. For the evidence in OECD countries, see Atkinson *et al.* (1995) and Gottschalk and Smeeding (1997).

Table 2: THE PARTITION BY AGE GROUP AND THE LIVING ARRANGEMENTS. PROPORTIONATE CHANGE OF THE MEAN, THE ADJUSTMENT FACTOR AND SOCIAL WELFARE DURING THE 1980s. WELFARE INDICES FOR 1980-1981 AND 1990-1991, WITH THE WELFARE INDEX FOR THE POPULATION AS A WHOLE = 100. VALUE OF $\Theta = 0,5$

	Proportionate Change (90/80):			Welfare Indices:		1990-1991
	Mean	Adjusted factor	Welfare	1980-1981	1990-1991	Demogr. Weights
Old:	*1,315*	*1,0202*	*1,342*	*75,2*	*77,8*	*13,8*
– Without dependents	1,388	1,0398	1,444	60,2	67,0	6,9
– With dependents	1,320	1,0435	1,377	81,5	86,5	3,7
– Dependents	1,314	0,9816	1,290	95,2	94,6	3,2
Adults:	*1,298*	*1,0179*	*1,321*	*102,6*	*104,5*	*40,5*
– Without dependents	1,284	1,0297	1,322	94,5	96,3	4,9
– With dependents	1,305	1,0157	1,325	105,1	107,3	32,1
– Dependents	1,245	1,0253	1,278	92,8	91,3	3,5
Young:	*1,269*	*1,0085*	*1,280*	*111,5*	*109,9*	*24,3*
– Without dependents	1,093	1,0383	1,135	156,4	136,8	1,3
– With dependents	1,153	0,9866	1,137	104,9	91,9	3,9
– Dependents	1,299	1,0104	1,313	111,0	112,3	19,1
Minors under an:	*1,243*	*1,0209*	*1,269*	*98,9*	*96,8*	*21,4*
– Old household head	1,201	1,0281	1,235	79,3	75,5	0,5
– Adult household head	1,258	1,0224	1,286	99,4	98,6	18,9
– Young household head	1,116	1,0249	1,144	99,0	87,3	2,0
All	*1,279*	*1,0143*	*1,297*	*100,0*	*100,0*	*100,0*

The old = 65 and over; *The young* = 16-30; *Other adults* = 31-64; *Minors* = Under 16; *Dependents* = Sons and daughters or parents of either the household head or the spouse, and other family related people. *Prop. change in the mean, the adj. factor and social welfare* = ratio of the 1990-1991 to the 1980-1981 value.

an increase in real welfare of almost 30 per cent. In this context, the old experience a 31,5 per cent increase in the mean. They also have one of the greatest increases in the adjustment factor, so that their welfare increases by more than 34 per cent, well above the average. The adults between 31 and 64 years old present a similar pattern but two percentage points below the old. By contrast, the increases in the mean, the adjustment factor and social welfare for the young are below the average and except for a greater than average decrease in inequality, the evolution of the minors situation is even worse.

As far as the living arrangements are concerned, the young living by themselves experiment a welfare increase 16 percentage points below the average. Notice that the young with dependents is the mirror image of the minors under the care of a young person, with approximately the same relative decline. However, the important group of young dependents, which amounts to 19 per cent of the population in 1990-1991, grows slightly above the average (see below for a breakdown into smaller subgroups). At the opposite extreme, the old living by themselves –with and without dependents– improve their relative positions in terms of the mean, adjustment factor and social welfare. However, the increase in inequality within the old living as dependents explains why this third subgroup ends up with the average welfare increase.

As regards the welfare ranking of the different subgroups, attention is paid to a single year, 1990-1991. The small group of young people without dependents is the best off, 36 percentage points above the average. Second place is occupied by the young dependents, who are better off than the adults with dependents –although both of them are clearly above the average. In spite of their improvement over time, the old without dependents are at the bottom of the scale, almost 35 percentage points below the average. Next come the old with dependents, the adult dependents, and the young with dependents. In this respect, recall that there are important rerankings as a function of Θ (see subsection 3.3. below).

3.2. The Combined Impact of All Factors

For the sake of completeness, a classification of all individuals by living arrangements, age group, and the situation in the labor market is presented in a rather complex table 3. The estimates for certain very small subgroups must be interpreted with care. The advantage of this effort is the possibility of highlighting interesting details.

By comparing the welfare indices at $\Theta = 0,5$ in both dates, the main conclusions on losers and winners are the following:

i) There is certainly a youth problem during the 1980s. On the one hand, the young employed and other inactive people with dependents, together with the minors under a young household head (subgroups 13, 11 and 30 in table 3), experiment a decrease in welfare of at least 10 percentage points. These subgroups of related people represent slightly more than 5 per cent of the population. Moreover, College and other students and the young dependents searching for a first job (subgroups 26, 27, and 25), representing more than 8 per cent of the population, also lose relative positions during the decade.

Table 3: Change in welfare indices by age group, living arrangements and the relation to economic activity in 1980-1981 and 1990-1991. Welfare index for the population as a whole = 100. Value of $\Theta = 0,5$

	1980-1981	1990-1991	Demographic weights
Without dependents:			
1. Retired	60,2	68,2	5,21
2. Early retired	75,2	80,8	1,03
3. Other inact., old	57,0	61,5	1,64
4. Other inact., non-old	96,9	91,6	1,96
5. Occupied	119,4	125,7	2,82
6. Unemployed	93,8	97,0	0,50
With dependents:			
7. Retired	78,2	86,4	2,80
8. Early retired	84,3	95,7	2,41
9. Other inact., old	79,7	83,4	0,73
10. Other inact., adults	103,2	103,3	11,06
11. Other inact., young	98,1	85,8	1,68
12. Occupied > 30	110,6	114,5	17,03
13. Occupied < 30	111,0	98,3	1,97
14. Unemployed > 30	78,7	86,0	1,70
15. Unemployed < 30	84,6	89,0	0,47
Dependents:			
16. Retired	94,8	97,3	2,56
17. Early retired	94,7	90,4	0,60
18. Other inact., old	90,6	85,1	0,65
19. Other inact., adults	85,6	80,1	0,75
20. Other inact., young	92,0	89,3	1,68
21. Occupied > 30	102,3	102,6	1,75
22. Occupied < 30	111,1	117,2	7,36
23. Unemployed > 30	74,6	73,1	0,44
24. Unemployed < 30	94,6	96,9	1,61
25. Searching for first job	100,5	89,9	1,23
26. College students	155,0	141,5	2,57
27. Other students	125,8	114,0	4,58
Minors whose h. head is:			
28. Inactive	75,3	76,7	1,69
29. Occupied > 31	104,2	103,0	16,51
30. Occupied, young	101,8	91,3	1,74
31. Unemployed	69,5	68,3	1,51

Who else experiments a below average welfare increase? Other inactive people below 65 years old and without dependents, as well as other inactive of all ages living as dependents (subgroups 4, 18, 19, and 20), who represent almost 5 per cent of the population. These are mostly women without either labor earnings or labor related public transfers.

ii) There are three sets of individuals characterized by an above average welfare increase. The first set consists of the employed. On the one hand, adults with and without dependents living on their own (subgroups 12 and 5), who represent practically 20 per cent of the total. On the other, young people who remain at the parental home (subgroup 22), amounting to more than 7 per cent. The second set consists of a rather small but never the less interesting contingent: the independent unemployed (subgroups 6, 14 and 15). However, the unemployed living as dependents, as well as the minors depending on an unemployed household head (subgroups 23, 24, and 31), simply maintain their relative positions during the period. Finally, the third set, who enjoy the greatest rate of welfare increase and represent almost 11,5 per cent of the population, consists of the retired or early retired living by themselves (subgroups 1, 2, 7, and 8).

Given this evolution of the standard of living in social welfare terms, what is the final ranking in 1990-1991? The analysis is restricted to the subgroups who occupy the lower and the upper tail of the welfare index distribution. At the bottom there are four sets of people representing almost a quarter of the population: i) the retired and the early retired (about 10 per cent of the total); ii) the other inactive old people in all kinds of living arrangements, and those inactives below 65 years old without dependents or below 30 years old with dependents (5 per cent); iii) all minors, except those depending on an employed household head (5 per cent); and iv) all the unemployed, except the young living as dependents who are close to the average (about 4 per cent). At the top, there are two sets of people representing one third of the population: i) the employed and independent, except the young with dependents (20 per cent); and ii) an important contingent of young dependents consisting of College and other students (7,1 per cent), as well as the employed (7,4 per cent).

It should be emphasized that the employed, the unemployed and the other inactive among the young are always better off as dependents than as independent. As a matter of fact, the young unemployed living as dependents are better off than the older unemployed[15]. The exception is provided by the young dependents searching for a first job, who are 10 percentage points below the population average. The conclusion is inescapable: in Spanish society, when you are young it pays to live as a dependent. The reason must be that parents of young people may be 40 to 55 years old. At that age, they could well have the greatest participation rate in the labor market and the largest earnings, because they are in the better part of their life-cycle. In particular, as San Segundo (1996) shows, College stu-

(15) This evidence complements the results in Revenga (1991) with a 1985 cross-section consisting of more than 9.000 young persons between 20 and 29 years old. This author finds that increases in regional unemployment increases the probability that a young adult remains as a dependent in the family home.

dents come out of proportion from households where the father is a College graduate and, therefore, likely to have greater income and expenditures.

3.3. The Role of Equivalence Scales

As shown in Section 1, most of the young live with their parents in larger households, on average, than the old. Therefore, it is to be expected that the situation of the old, relative to the young or the minors, would improve as economies of scale are assumed to be smaller, that is to say, as the parameter Θ increases. Table 4 includes the welfare indices for 1990-1991 and three values of Θ: a value of 0,1, which corresponds to large economies of scale –but not infinite, as a value of 0,0 would imply–; an intermediate value of 0,5; and a value of 1,0 corresponding to the extreme case without economies of scale at all, so that adjusted household expenditures coincide with *per capita* household expenditures. To judge the results, it is important to take into account the relative demographic weight of every subgroup in this partition (for 1990-1991, this information is reproduced in column 5 of table 4).

Table 4: MEAN HOUSEHOLD SIZE AND WELFARE RANKING BY AGE GROUP IN 1990-1991 AS A FUNCTION OF THE PARAMETER Θ. WELFARE INDEX FOR THE POPULATION AS A WHOLE = 100

	Mean h. size	Θ = 0,1	Θ = 0,5	Θ = 1,0	1990-1991 Demographic weights
Age groups:					
Old	3,12	65,1	77,8	96,2	13,8
Adults	4,25	103,4	104,5	105,8	40,5
Young	4,71	114,5	109,9	104,3	24,3
Minors	5,32	104,4	96,8	88,2	21,4
All		100,0	100,0	100,0	100,0

The old = 65 and over; *The young* = 16-30; *Other adults* = 31-64; *Minors* = Under 16.

Notice how sensitive the welfare ranking of certain age groups is to Θ. In particular, when Θ = 1 the old have a greater welfare index than the minors in both years. In any event, except when Θ = 1, the young are on top of the ranking in spite of the loss in relative positions they experience during the decade. To appreciate the importance of the assumption about economies of scale, table B in the Appendix includes the welfare indices in 1990-1991 as a function of Θ for a more detailed population break down.

4. Conclusions

This paper has used a data source on the evolution of the population and its standard of living in Spain which is rich in individual detail. This has made it possible to connect two formerly separated spheres: on one hand, the well known demographic features of Spanish society during the 1980s, as well as the recent trends in living arrangements and the labor participation decision; on the other, the evolution of the standard of living measured as adjusted household expenditures on private commodities current consumption.

From the demographic point of view, the main feature of this period is the absolute and relative decline of minors below 16 years of age, and the increase in all other groups, especially the old. From the economic point of view, social welfare for a given subset of individuals is measured as the mean of the adjusted household expenditures personal distribution, corrected by a factor which varies inversely with the inequality exhibited by that expenditures distribution. Since the mean in real terms went up by nearly 28 per cent and adjusted household expenditures real inequality went down, social welfare for the population as a whole went up by approximately 30 per cent.

Against this background, the young and the minors lose ground relative to the old and regular adults over 30 years old. However, this conclusion must be qualified in the following respects.

1. Retired, early retired and the independent unemployed have seen their mean adjusted household expenditures go up above the population average. Since many of these subgroups have also experimented a particularly strong decrease in inequality, their welfare increase approaches 40 per cent. To a significant extent, this must be the consequence of the way the Spanish social security system and unemployment subsidy programs have evolved during this period: increased coverage and increased benefits.

2. To a lesser extent, the employed were above average in social welfare terms. However, given the increase in the female occupation rate during the period, it is interesting to evaluate separately the two genders performance [for further details, see the extended version of this paper Del Río and Ruiz-Castillo (1997)]. Possibly because the majority of employed women pool resources with employed men, the employed women do better than the employed men in 1980-1981. The interesting fact is that households with employed women did better than households with employed men, and both did better than the population as a whole. Thus, on average, it appears that the switch from inactivity to employment has been worth while for females. However, we must recall that our measure of household welfare does not include the leisure lost by women who decided to enter the labor force.

3. Turning now towards net losers during the period, notice that other inactive persons are at best maintaining their relative positions or performing below the population average. This is, in part, the other side of the coin discussed in the previous point, since these are mostly women who are found not only out of the labor force, but also out of the public transfer system, except for widows' pensions.

4. Among the young, the dependents in the active labor force, plus the unemployed with dependents, experiment at least an average welfare increase. All the rest, especially those living on their own with dependents, the students and other inactive people lose relative positions.

5. Finally, except those depending on an inactive person, all minors have lost some relative positions. Those depending on either an old or a young household head are the ones who fared worst.

Finally, what is to be said about the welfare ranking of the different subgroups at the end of the decade? We simply reiterate here that College and other students, as well as young people with a job but living at the parental home, join the employed independent people at the top of the distribution. The retired and other inactive old people, the older unemployed, and the young unemployed or inactive with dependents are at the bottom.

All of the above are results for an intermediate value of the parameter which captures the importance given to economies of scale. Individuals belonging to small households, like independent people without dependents, dramatically improve their relative positions when economies of scale are less important, i. e. when Θ tends to 1,0. The opposite is the case for dependents in general and minors in particular, who tend to live in larger households.

From the point of view of demographic studies, this paper is interesting because of the link established between demographic trends and an operational notion of an individual's standard of living. This has made it possible to follow up the consequences of individual decisions by key subgroups, such as the early retired or women in general, as well as the consequences of household formation decisions by both the old and the young.

The consequences of the labor force participation and living arrangements decisions may be further described using multivariate techniques. For instance, these techniques make it possible to characterize those persons who retire before the normal age, those of the old (or the young) who decide to live by themselves, or the million adults between 31 and 64 years old who remain as dependents in households headed by someone else. Further characterizations may refer to households who admit dependents of all sorts, including households headed by an older person in whose living arrangements decision new variables, like housing conditions and housing tenure, may play some explanatory role. In the next step, a general model would have to take into account the interaction between, for example, parents and their descendants' decisions in a dynamic context [see, for instance, Ermish and Di Salvo (1997) and Rosenzweig and Wolpin (1993)]. Testing such a model requires a type of data which will shortly be available in Spain for a sufficiently large number of years. But even with cross-section data, it is possible to address the fact that the decisions taken by young people about living arrangements, labor force participation and human capital investment are taken simultaneously. This is a topic left for future research.

STATISTICAL APPENDIX

Table A: EVOLUTION OF THE POPULATION CLASSIFIED BY AGE GROUP, LIVING ARRANGEMENTS, AND THE RELATION TO ECONOMIC ACTIVITY (IN 1,000 OF PERSONS)

	Number of people 1980-1981	%	Number of people 1990-1991	%
Without dependents:				
1. Retired	1.265	3,41	2.005	5,21
2. Early retired	275	0,74	396	1,03
3. Other inact., old	468	1,26	633	1,64
4. Other inact., non-old	882	2,34	396	1,96
5. Occupied	1.152	3,11	1.087	2,82
6. Unemployed	91	0,25	192	0,50
With dependents:				
7. Retired	657	1,77	1.079	2,80
8. Early retired	519	1,40	926	2,41
9. Other inact., old	194	0,50	280	0,73
10. Other inact., adults	4.374	11,80	4.256	11,06
11. Other inact., young	900	2,43	554	1,44
12. Occupied > 30	6.049	16,32	6.556	17,03
13. Occupied < 30	966	2,61	760	1,97
14. Unemployed > 30	396	1,07	653	1,70
15. Unemployed < 30	96	0,26	180	0,47
Dependents:				
16. Retired	867	2,34	985	2,56
17. Early retired	183	0,49	231	0,60
18. Other inact., old	445	1,20	248	0,65
19. Other inact., adults	425	1,15	289	0,75
20. Other inact., young	908	2,45	647	1,68
21. Occupied > 30	535	1,44	672	1,75
22. Occupied < 30	2.043	5,51	2.834	7,36
23. Unemployed > 30	87	0,24	169	0,44
24. Unemployed < 30	491	1,32	620	1,61
25. Searching for first job	453	1,22	475	1,23
26. College students	477	1,29	989	2,57
27. Other students	1.213	3,27	1.765	4,58
Minors whose h. head is:				
28. Inactive	695	1,88	650	1,69
29. Occupied > 30	8.213	22,16	6.356	16,51
30. Occupied, young	1.005	2,71	669	1,74
31. Unemployed	740	2,00	580	1,51

Table B: WELFARE INDICES BY AGE GROUP, LIVING ARRANGEMENTS AND THE RELATION TO ECONOMIC ACTIVITY IN 1990-1991 AS A FUNCTION OF Θ. WELFARE INDEX FOR THE POPULATION AS A WHOLE = 100

	Θ = 0,1	Θ = 0,5	Θ = 1,0	Demographic weight
Without dependents:				
1. Retired	48,2	68,2	105,3	5,21
2. Early retired	57,4	80,8	124,0	1,03
3. Other inact., old	46,9	61,5	85,9	1,64
4. Other inact., non-old	70,6	91,6	127,0	1,96
5. Occupied	92,5	125,7	184,3	2,82
6. Unemployed	70,8	97,0	143,5	0,50
With dependents:				
7. Retired	80,4	86,4	94,6	2,80
8. Early retired	94,4	95,7	97,5	2,41
9. Other inact,, old	79,7	83,4	88,5	0,73
10. Other inact., adults	107,6	103,3	98,4	11,06
11. Other inact., young	84,7	85,8	79,2	1,68
12. Occupied > 30	118,1	114,5	110,3	17,03
13. Occupied < 30	94,3	98,3	104,0	1,97
14. Unemployed > 30	88,8	86,0	82,7	1,70
15. Unemployed < 30	87,0	89,0	92,0	0,47
Dependents:				
16. Retired	101,3	97,3	92,3	2,56
17. Early retired	88,0	90,4	93,4	0,60
18. Other inact., old	90,6	85,1	85,1	0,65
19. Other inact., adults	80,8	80,1	79,2	0,75
20. Other inact., young	98,5	89,3	79,2	1,68
21. Occupied > 30	103,3	102,6	101,7	1,75
22. Occupied < 30	125,6	117,2	107,7	7,36
23. Unemployed > 30	72,7	73,1	73,9	0,44
24. Unemployed < 30	104,8	96,9	87,9	1,61
25. Searching for first job	99,9	89,9	78,8	1,23
26. College students	150,9	141,5	130,9	2,57
27. Other students	123,6	114,0	103,1	4,58
Minors whose h, head is:				
28. Inactive	87,4	76,7	65,8	1,69
29. Occupied > 31	111,3	103,0	93,6	16,51
30. Occupied, young	90,9	91,3	92,3	1,74
31. Unemployed	75,2	68,3	60,6	1,51

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RESUMEN

En este trabajo se analiza la evolución del nivel de vida en España durante la década de los 80, a partir de diferentes particiones de la población construidas según las siguientes caraterísticas individuales: edad, relación con la actividad económica, y el resultado de la decisión sobre los acuerdos de convivencia, ya sea como sustentador principal de un hogar, con o sin otros individuos dependientes, o como individuo dependiente en un hogar donde el sustentador principal es una persona distinta del propio individuo. Desde el punto de vista de los estudios de demografía económica, este trabajo es interesante debido al nexo que establece entre las tendencias demográficas, las decisiones sobre los acuerdos de convivencia entre los individuos y los niveles de vida alcanzados por los mismos. Esto permite extraer conclusiones sobre las consecuencias de las decisiones individuales adoptadas por subgrupos de especial interés como los retirados anticipadamente o las mujeres en general, así como las consecuencias de las decisiones de formación de hogares tanto en jóvenes como en mayores.

Palabras clave: bienestar, desigualdad, acuerdos de convivencia, tendencias demográficas.

Clasificación JEL: D31, J10.